

Current Status of Claims

1. (original)

A method for joining a coupling element, e.g. a joining flange means, to a pipe, said coupling element surrounding the pipe and having grooves facing the pipe and intended to receive a corresponding plurality of beads provided on the pipe, characterised in the steps of:

- 5 - providing said coupling element to surround the pipe at an end region thereof,
- providing a first and dedicated radial directed pressing action on the inside wall of the pipe at axial locations of the pipe corresponding to location of said grooves on the surrounding coupling element to deform the pipe thereat to create said beads and cause said beads to project into said grooves, and
- 10 - providing a second and dedicated radial directed post-pressing action on the inside wall of the pipe at buckled-in regions of the pipe wall that naturally occur between and adjacent the created beads during and caused by the first pressing action, to cause a post-pressing of said regions in an outward direction, thereby providing an outward tension in the pipe at the location of the coupling element.

2. (original)

A tool for joining a coupling element, e.g. a joining flange means, to a pipe, said coupling element intended to surround the pipe and having grooves facing the pipe and intended to receive a corresponding plurality of beads provided on the pipe, characterised in

- that the tool has plurality of axially separated, radially movable segments (10),
- 5 each segment having a plurality of circle sector formed ridges, said plurality of segments thereby providing circumferentially extending ridges (11) capable of deforming the pipe wall by a first pressing action on the inside wall of the pipe to create on the outside of the pipe circumferential beads (5; 6) in the pipe wall and cause said beads (5; 6) to extend into corresponding ones of said grooves (3; 4) in the coupling element, and
- 10 - that the segments have circumferentially extending portions (13) located adjacent and between the ridges, said portions (13) in a second, subsequent passing action to cause post-pressing of buckled-in areas that occur naturally in the pipe wall between and adjacent the beads during the first pressing action, so that an outward tension is obtained in the pipe at the location of the coupling element.

3. (original)

A tool according to claim 2, characterised in

- that a part of the segments which is to lie axially aligned with the end of the pipe has a projection (14) which is configured to press the pipe end out slightly further than the diameter proper of the pipe

4. (currently amended)

A tool according to claim 2 ~~[or 3]~~, characterised in

- that the segments provide an internal conical shaped or polygonal pyramid shaped space, and
 - that a cone or polygonal pyramid is locatable internally of and coaxially with the segments, said cone or pyramid when pulled towards a narrow end of said shape causing the segments to move radially outwards.
- 5

5. (currently amended)

A coupling element connectable to a pipe, said coupling element configured to surround the pipe and having grooves to face the pipe and to receive a corresponding plurality of beads provided on the pipe, for use with a tool according ~~[claims 2, 3 and 4,]~~ to claim 2 characterised in

- that the coupling element at its foremost portion has a recess with a diameter greater than an outer diameter of the pipe, so that when the coupling elements surrounds the pipe and said recess is aligned with the end of the pipe, that pipe end is pressable into said recess through an outward bending action thereon.
- 5

6. (original)

A coupling element according to claim 5, characterised in that the coupling element (30) has a part of its outer surface spherically shaped to allow a two-part flange device with internal space thereof configured to be clamped to the surface of the coupling element, whereby a longitudinal axis through said two-part flange device is angularly adjustable relative to a longitudinal axis of the pipe.

5